

## Listing of the Claims

1. (Currently Amended) A method of displaying an image with a display device,  
5 the method comprising:

receiving image data for the image at a first resolution;

generating a first sub-frame and a second sub-frame based on  
combinations of pixel values from the image data, the first and second sub-frames  
having a second resolution which matches the display device and each have an  
10 area equal to the image data; and

controlling an image shifter to allow for alternating between displaying the  
first sub-frame in a first position and displaying the second sub-frame in a second  
position spatially offset from the first position on the display device.

15 2. (Currently Amended) ~~The method of claim 1, and further comprising:~~ A method  
of displaying an image with a display device, the method comprising:

receiving image data for the image;

generating a first sub-frame and a second sub-frame based on  
combinations of pixel values from the image data;

20 alternating between displaying the first sub-frame in a first position and  
displaying the second sub-frame in a second position spatially offset from the first  
position;

generating a third sub-frame and a fourth sub-frame based on  
combinations of pixel values from the image data; and

25 wherein alternating between displaying the first sub-frame and displaying  
the second sub-frame further includes alternating between displaying the first sub-  
frame in the first position, displaying the second sub-frame in the second position,  
displaying the third sub-frame in a third position spatially offset from the first  
position and the second position, and displaying the fourth sub-frame in a fourth  
30 position spatially offset from the first position, the second position, and the third  
position.

3. (Currently Amended) ~~The method of claim 1~~A method of displaying an image with a display device, the method comprising:

receiving image data for the image;

generating a first sub-frame and a second sub-frame based on

5 combinations of pixel values from the image data, wherein the first and the second sub-frames each include a plurality of pixels; ~~the method further comprising;~~

assigning a value to each pixel in the first and the second sub-frames based on a weighted sum of a plurality of pixel values from the image data; and

alternating between displaying the first sub-frame in a first position and

10 displaying the second sub-frame in a second position spatially offset from the first position.

4. (Currently Amended) The method of claim ~~[[1]]~~3, ~~wherein the first and the second sub-frames each include a plurality of pixels, the method further~~  
15 ~~comprising:~~

wherein the step of assigning a value to each pixel in the first and the second sub-frames is based on a weighted sum of four pixel values from the image data.

20 5. (Currently Amended) The method of claim ~~[[1]]~~3, wherein the image data includes a plurality of blocks of four pixels, ~~the first and the second sub-frames each including a plurality of pixels~~, each pixel in the first and the second sub-frames corresponding to one of the blocks.

25 6. (Original) The method of claim 5, and further comprising:

assigning a value to each pixel in the first and the second sub-frames based on a weighted sum of the pixel values of the four pixels in the block corresponding to the pixel in the sub-frame.

30 7. (Original) The method of claim 6, wherein the weighted sum comprises a sum of multiplications of three of the pixel values by a zero value and multiplication of one of the pixel values by a non-zero value.

8. (Original) The method of claim 7, wherein the non-zero value is one.

9. (Original) The method of claim 6, wherein the weighted sum comprises a sum of multiplications of three of the pixel values by at least one non-zero value and multiplication of one of the pixel values by a non-zero value.

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10. (Original) The method of claim 6, wherein the weighted sum comprises a sum of multiplications of at least two of the pixel values by at least one non-zero value.

11. (Original) The method of claim 1, wherein the combinations are linear combinations.

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12. (Original) The method of claim 1, wherein the combinations are non-linear combinations.

13. (Original) A system for displaying an image, the system comprising:  
a buffer configured to receive image data for the image, the image data including a plurality of blocks of pixels;  
an image processing unit configured to define first and second sub-frames, the first and the second sub-frames each including a plurality of pixels, each pixel in the first and the second sub-frames corresponding to one of the blocks, and wherein the image processing unit is configured to assign a value to each pixel in the first and the second sub-frames based on a value of at least one pixel in a corresponding block multiplied by at least one weight value; and  
a display device adapted to alternately display the first sub-frame in a first position and the second sub-frame in a second position spatially offset from the first position.

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14. (Original) The system of claim 13, wherein each block of pixels includes a 2x2 array of four pixels.

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15. (Original) The system of claim 14, wherein the image processing unit is configured to assign a value to each pixel in the first and the second sub-frames based on values of the four pixels in a corresponding block multiplied by four respective weight values.

16. (Original) The system of claim 15, wherein the weight values include three zero values and one non-zero value.

5 17. (Original) The system of claim 15, wherein the weight values include at least two non-zero values.

18. (Currently Amended) A system for generating sub-frames for display at spatially offset positions to generate the appearance of a higher resolution image,  
10 the system comprising:

means for receiving a first image;

means for identifying a plurality of blocks of pixels in the first image; and

means for generating a plurality of sub-frames, wherein the first and second sub-frames each include a plurality of pixels, each pixel of the plurality of  
15 sub-frames assigned a value based on a weighted sum of combinations of the  
pixels in each identified block of pixels in the first image.

Claims 19 (Cancelled).

20 20. (Currently Amended) ~~The system of claim 19,~~ A system for generating sub-frames for display at spatially offset positions to generate the appearance of a higher resolution image, the system comprising:

means for receiving a first image;

means for identifying a plurality of blocks of pixels in the first image,

25 wherein the combination of the pixels in each identified block comprise weighted sums of the pixels in each identified block and wherein each block comprises a 2x2 array of four pixels; and

means for generating a plurality of sub-frames based on combinations of the pixels in each identified block of pixels.

30 21. (Original) The system of claim 18, wherein the combinations are linear combinations.

22. (Original) ~~The system of claim 18,~~ A system for generating sub-frames for display at spatially offset positions to generate the appearance of a higher resolution image, the system comprising:

means for receiving a first image;

5        means for identifying a plurality of blocks of pixels in the first image; and  
means for generating a plurality of sub-frames based on ~~wherein the combinations~~  
~~are non-linear combinations~~ of the pixels in each identified block of pixels.

23. (Currently Amended) A computer-readable medium ~~having~~encoded with  
10 computer-executable instructions for performing a method of generating sub-frames for display at spatially offset positions to generate the appearance of a higher resolution image, comprising:

receiving a first high resolution image;

identifying a plurality of sets of pixels in the first high resolution image; and

15        generating a plurality of sub-frames, wherein each of the plurality of sub-frames each include a plurality of pixels, by assigning a value to each pixel in the plurality of sub-frames based on weighted sums of the pixels in each identified set. of pixels in the first high resolution image.

20 24. (Original) The computer-readable medium of claim 23, wherein each set of pixels comprises four neighboring pixels.